

REMARKS

Claims 1, 3 and 6-25 are pending. Claims 2 and 4-5 have been canceled. Claims 10-22 are withdrawn from consideration as being drawn to non-elected subject matter.

Claims 1 and 3 have been amended to recite an upper limit for the amount of monomer units (A) to be "5% by weight". The basis for the upper limit "5% by weight" is found on page 5, line 15.

New claim 23 is essentially identical to amended claim 1, except that new claim 23 recites an upper limit for the amount of monomer units (A) to be "less than 5% by weight". The basis for the upper limit "less than 5% by weight" is found on page 5, line 15.

New claims 24-25 recite that the acrylic rubber is insoluble in water. Applicants respectfully submit that there is adequate explicit and implicit written description support in the present specification to show that Applicants were in possession of the presently claimed invention at the instant priority date. First, it is noted that the inventive acrylic rubber is taught to be useful for sealers, cylinder head covers, automobile hoses and industrial hoses, vibration insulators, tubes, belts and boots (see page 27, last paragraph). Thus, the acrylic rubber must not be soluble in water. Second, Applicants note that the acrylic rubbers made in Examples 1-3 are washed with water. See the paragraph bridging pages 20-21. It is general practice to wash final chemical products with a solvent which does not dissolve the intended product but does dissolve the unwanted side product(s).

On this matter, MPEP 2163.07(a) recites:

By disclosing in a patent application a device that inherently performs a function or has a property, operates according to a theory or has an advantage, a patent application necessarily discloses that function, theory or advantage, even though it says nothing explicit concerning it. The application may later be amended to recite the function, theory or advantage without introducing prohibited new matter.

As such, no new matter has been added by way of the above-amendment.

Issues under 35 U.S.C § 103

The following prior art Rejections are pending:

- (A) Claims 1, 3, 5, 7 and 8 are rejected under 35 U.S.C. 103(a) being unpatentable as obvious over Linke et al. (U.S. patent 3,981,987); and
- (B) Claim 6 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable as obvious over Linke et al. (U.S. Patent 3,981,987) in view of Moriyama et al. (U.S. Patent Application Publication 2001/0005742).

Applicants respectfully traverse Rejection A and Rejection B.

I. Linke et al

Applicants respectfully submit that the polymeric resin contained in the hair-setting composition described in Linke et al is fundamentally different from the acrylic rubber of the present invention as follows.

The polymeric resin in Linke et al is water-soluble and the hair-setting composition can form a film on hair which can be washed off with water (claim 1; column 2, line 2 et seq.; column 3, lines 63-69; and column 4, 16-31).

In contrast, the acrylic rubber of the present invention is used for sealers, cylinder head covers, automobile hoses and industrial hoses, vibration insulators, tubes, belts and boots (page 27, last paragraph). Thus, the acrylic rubber must not be soluble in water.

In addition, the polymeric resin of Linke et al is a copolymer of (a) 20-95% by weight of at least one compound selected from vinyl esters of C₂₋₂₀ aliphatic carboxylic acids and esters of acrylic acid and methacrylic acid with C₁₋₆ aliphatic alcohols, and (b) 80-5% by weight of at least one compound selected from half-esters of C₄₋₅ ethylenically unsaturated dibasic carboxylic acids with of C₆₋₂₄ carbon atoms. Thus, the copolymer of Linke et al comprises 5-85% by weight

of half-esters of C₄₋₅ ethylenically unsaturated dibasic carboxylic acids with of C₆₋₂₄ carbon atoms, which include cyclohexyl maleate.

This is in distinction with the composition of the acrylic rubber of the present invention which comprises 0.1 to 5% by weight of monocyclohexyl fumarate and/or maleate. Whether there is overlap with that of the copolymer of Linke et al or not, it is submitted, however, that the particular combination of (a) with (b) in amounts such that the resulting copolymer is not soluble in water is clearly excluded from the copolymer of the hair-setting composition of Linke et al (column 3, lines 63-69; column 4, 16-31). Thus, the acrylic rubber of the present invention is believed to be clearly distinguished from the copolymer in Linke et al.

Linke et al teach that the component (b) including cyclohexyl maleate has a function of giving a water-soluble copolymer so that the hair-setting composition is capable of forming a film on hair which can be washed off with water. In contrast, the component (A) of the present invention (i.e., monocyclohexyl fumarate and/or monocyclohexyl maleate) is crucial for giving a rubber vulcanizate having reduced permanent set and improved elongation and mechanical strength. Linke et al does not suggest this feature of the component (A).

Thus, the subject matter of Claims 1, 3, 7 and 8 would not be obvious from Linke et al. and withdrawal of Rejection A is respectfully requested.

II. Linke et al and Moriyama et al

In Rejection B, the Examiner cites Moriyama et al. for teaching that the subject matter of inventive claims 6 and 9 which are dependent claims. Applicants respectfully submit that Moriyama et al. either do not cure the deficiencies of Linke et al (as discussed in detail above) or the skilled artisan would not look to the teachings of Moriyama et al. to modify the disclosure of Linke et al. since the compositions are used in totally different technologies.

Moriyama et al disclose an acrylic elastomer capable of giving stable compression set characteristics (column 1, paragraph [0002]). However, the acrylic elastomer does not comprise monocyclohexyl fumarate and/or monocyclohexyl maleate.

Furthermore, there is no motivation for the skilled artisan to combine Moriyama et al with Linke et al disclosing hair-setting composition capable of forming a film on hair which can be washed off with water.

In the outstanding Office Action, the Examiner states that:

Both references are analogous art because they are from the same field of endeavor concerning copolymers obtained by copolymerization of acrylic or methacrylic acid esters with esters of ethylenically unsaturated dibasic carboxylic acids.

Applicants respectfully disagree that this would be a source of motivation to the artisan to combine the references. According to the MPEP 2143.01, "[i]f proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no ... motivation to make the proposed modification."

As mentioned at column 1, lines 29-34 of Linke et al., the hair-setting compositions must be water soluble. This is in contradistinction to the teachings of Moriyama et al. wherein the rubbery material must have good steam vulcanization characteristics and good compression set characteristics because the resins are used in gaskets, oil seals, O-rings, and hose materials, see paragraph [0005] of Moriyama et al.

Accordingly, one skilled in the art would not have a reasonable expectation of success that modifying the water soluble compositions of Linke et al. useful as hair setting compositions with the characteristics of the compositions useful as gaskets, oil seals, O-rings and hose materials of Moriyama et al would give a final product which is still water soluble and useful in hair setting compositions.

Accordingly, a *prima facie* case of obviousness cannot be said to exist with respect to the combination of Moriyama et al and Linke et al. As such, withdrawal of Rejection B is respectfully requested.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Conclusion


In view of the above remarks, it is believed that claims are allowable.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Garth M. Dahlen, Ph.D., Esq., Reg. No. 43,575 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.14; particularly, extension of time fees.

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Respectfully submitted,

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